

CLAIMS

What is claimed is:

1. A method of erasing a magnetic disk in a hard disk drive, comprising:
 - (a) providing a disk erase apparatus having a magnetic gap with a high strength magnetic field, and a hard disk drive having an enclosure, a magnetic disk inside the enclosure, and a disk region formed in the enclosure, the magnetic disk having an axis of rotation;
 - (b) configuring the disk region with an axial thickness that is less than an axial thickness of the enclosure;
 - (c) inserting the hard disk drive into the disk erase apparatus such that the disk region is located in the magnetic gap;
 - (d) rotating the magnetic disk;
 - (e) erasing the magnetic disk while the magnetic disk is located inside the hard disk drive; and
 - (f) removing the hard disk drive from the disk erase apparatus.
2. The method of claim 1, further comprising configuring the magnetic gap with an axial dimension that is greater than the axial thickness of the disk region and less than the axial thickness of the enclosure.
3. The method of claim 1, wherein step (a) comprises providing the enclosure with a base and a cover, and wherein step (b) comprises forming the disk region on portions of both the base and the cover.
4. The method of claim 1, wherein step (e) comprises erasing an entire storage area of the magnetic disk.

5. The method of claim 1, further comprising the step of reducing stray magnetic fields to prevent motor rotor demagnetization damage, and increases a gradient of magnetic flux density as the hard disk drive is inserted into the disk erase apparatus.

6. A method of erasing a magnetic disk in a hard disk drive, comprising:
- (a) providing a disk erase apparatus having a magnetic gap with a high strength magnetic field, and a hard disk drive having an enclosure, a magnetic disk inside the enclosure, and a disk region formed in the enclosure, the magnetic disk having an axis of rotation;
 - (b) configuring the disk region with an axial thickness that is less than an axial thickness of the enclosure;
 - (c) configuring the magnetic gap with an axial dimension that is greater than the axial thickness of the disk region and less than the axial thickness of the enclosure.
 - (d) inserting the hard disk drive into the disk erase apparatus such that the disk region is located in the magnetic gap;
 - (e) rotating the magnetic disk;
 - (f) erasing the magnetic disk while the magnetic disk is located inside the hard disk drive such that an entire storage area of the magnetic disk is erased; and
 - (g) removing the hard disk drive from the disk erase apparatus.

7. The method of claim 6, wherein step (a) comprises providing the enclosure with a base and a cover, and wherein step (b) comprises forming the disk region on portions of both the base and the cover.

8. The method of claim 1, further comprising the step of reducing stray magnetic fields to prevent motor rotor demagnetization damage, and increases a gradient of magnetic flux density as the hard disk drive is inserted into the disk erase apparatus.